

REMARKS

Favorable reconsideration of this application is respectfully requested in view of the following remarks.

Submitted with this Amendment is a Substitute Specification. The changes presented in the Substitute Specification involve changing the somewhat awkward phrase "not-through hole" to --blind hole--. No new matter has been introduced. Also attached for the Examiner's convenience is a comparison version of the Substitute Specification indicating the changes incorporated into the Substitute Specification relative to the original specification.

Similar changes have also been made in the claims. That is, the claims have been amended without narrowing the claim scope to change the recitation of the "not-through hole" to --blind hole--. In addition, the term "pin" has been changed to --second member--without narrowing the claims scope for purposes of consistency with the earlier recitation in the claims. Accordingly, withdrawal of the claim rejection based on the second paragraph of 35 U.S.C. § 112 is respectfully requested.

The subject matter of this application relates to an element for use in a brake actuator. As discussed in the background portion of the present application, an element used in a brake actuator includes a pin that is fixed to a piston. One known construction is illustrated in Fig. 8 and involves pressing a pin 15 into a blind hole 19 formed in the piston 12. However, as pointed out in the present application, this known arrangement can be problematic in that when the pin is pressed into the blind hole, air can become trapped in the space between the bottom of the pin and the bottom of the hole. This can cause the pin to be pushed out of the hole during use and may also cause the air to gradually leak into the brake fluid.

As set forth in independent Claim 1, the brake actuator element at issue here comprises a first member formed with a blind hole and a second member that is pressed into the blind hole, with one of the two members being formed with a channel through which any gap present between the bottom of second member and the bottom of the blind hole is in communication with the outside of the blind hole.

The Official Action sets forth a rejection of independent Claim 1 based on the disclosure contained in U.S. Patent No. 3,148,707 to *Smyklo et al.* This document discloses a valve plug that includes a ball 44 and a stem 46 extending from the ball. The stem 46 is positioned within a counterbore in a piston 14 so that the stem 46 freely movable in the counterbore.

One of the differences between the brake actuator element at issue here and the disclosure in *Smyklo et al.* involves the way in which the second member is positioned in the blind hole. That is, the second member is pressed or press-fit into the blind bore. Claim 1 has been amended to use the latter term to make clear this distinction relative to the disclosure in *Smyklo et al.* In the present invention, this press-fit of the second member into the blind hole is what gives rise to the problems addressed by the present invention as discussed in, for example, paragraph [0008] of the present application. This structural characteristic of the second member being press-fit into the blind hole is quite different from what is disclosed in *Smyklo et al.* Considering the intended operation of the device disclosed in *Smyklo et al.*, which can be seen by comparing the illustrations in Figs. 2 and 3 of *Smyklo et al.*, it is apparent that the stem 46 is not press-fit into the hole 60. Indeed, the stem 46 cannot be press-fit into the hole 60 while still operating in the intended manner.

Considering at least the foregoing distinction, it is respectfully submitted that the claimed brake actuator element set forth in independent Claim 1 is patentably distinguishable over the disclosure contained in *Smyklo et al.*

The dependent claims are allowable at least by virtue of their dependence from allowable independent Claim 1. The dependent claims also define further distinguishing characteristics associated with the claimed brake actuator element. For example, dependent Claim 2 recites that the channel is defined by a cylindrical inner periphery of the blind hole and a flat cut surface formed on the outer periphery of a portion of the second member which is press-fit into the blind hole. The Official Action does not identify the portion of the stem 46 which includes a flat cut surface on its outer periphery and it is clear from the illustration in Fig. 2 of *Smyklo et al.* that the stem 46 is not provided with such a flat cut surface forming the channel recited in independent Claim 1.

Dependent Claim 3 recites that the channel is a groove formed in either the outer periphery of the second member or the inner periphery of the blind hole. In *Smyklo et al.*, neither the inner periphery of the hole 60 nor the outer periphery of the stem 46 includes a groove as claimed.

Dependent Claim 5 has been amended to recite that the bottom of the blind hole has the shape of a convex cone. Such an arrangement is not disclosed in *Smyklo et al.* Further, such claim is also distinguishable over the disclosure in U.S. Patent No. 5,354,187 to *Holland et al.*

Claim 6 defines characteristics of the brake actuator element that facilitate relatively smooth discharge of fluid trapped between the bottom of the second element and the bottom of the blind hole. Claim 6 recites that either the bottom of

the second member or the bottom of the blind hole possesses the shape of a concave cone having a first apex angle while the other of the bottom of the second member and the bottom of the blind hole has the shape of a convex cone having a second apex angle, with the first apex angle being different from the second apex angle.

In *Holland et al.* the relevant bottoms are located in the chamber of a pressure accumulator, and fluid in the chamber of the pressure accumulator has to be trapped in the chamber. Thus, the relevant bottoms disclosed in *Holland et al.* are not intended to facilitate the relatively smooth discharge of any fluid trapped between the bottom surfaces. Consequently, the disclosure contained in *Holland et al.* would not have motivated one to incorporate the particular bottom configurations disclosed in *Holland et al.* into the device disclosed in *Smyklo et al.* Also, contrary to the observation in the Official Action, the claimed shapes recited in various claims are not matters of design choice. The claimed shapes are designed to provide desirable results not disclosed in, or intended to be achieved by, *Holland et al.*

It is believed that this application is in condition for allowance and such action is earnestly solicited.

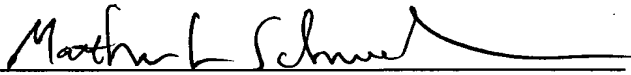
Should any questions arise in connection with this application or should the Examiner believe that a telephone conference with the undersigned would be helpful

in resolving any remaining issues pertaining to this application, the undersigned respectfully requests that he be contacted at the number indicated below.

Respectfully submitted,

BURNS, DOANE, SWECKER & MATHIS, L.L.P.

Date: January 7, 2005

By: 
Matthew L. Schneider
Registration No. 32,814

P.O. Box 1404
Alexandria, Virginia 22313-1404
(703) 836-6620